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ABSTRACT

This study examined non-traditional methods in teaching spelling and vocabulary using music and rhythm in instruction. Subjects were 4 at-risk students in a class of 29 students in a seventh-grade classroom at a middle school in Marin County, California. A musical component was added to instruction as part of the seventh-grade students' processing spelling and vocabulary words. Differences in learning styles, preferences, and degree of comprehension were noted. Results indicated that instruction using music had no effect on students' test scores. While the results showed no effect, it is important to consider changing instruction to include music and other ways of learning for students not served by traditional methods of instruction. (Contains 24 references. An appendix presents word unscrambling tasks and matching tasks.) (Author/RS)

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ED 371 312

Teaching Spelling and Vocabulary to At Risk Students Utilizing The Musical/Rhythmic Intelligence

By

Robert Eric Sundberg

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Table of Contents

Acknowledgments	i
Table of Contents	iii
Abstract	1
Introduction	2
Statement of the Problem	4
Research Hypothesis	5
Rationale	6
Background and Need	8
Review of the Literature	13
Method	25
Subjects	25
Materials	25
Procedure	26
Results	37
Discussion	37
References	41
Appendix	43

Abstract

This study examined non-traditional methods in teaching spelling and vocabulary using music and rhythm in instruction. Students have been exposed to stimulus response approaches in learning spelling and vocabulary for most of their school careers. This method included adding a musical component to instruction as part of the students' processing spelling and vocabulary words. Differences in learning styles, preferences, and degree of comprehension were noted. Results indicated that instruction using music had no effect on students' test scores. While the results showed no effect, it is important to consider changing instruction to include music and other ways of learning for students not served by traditional methods of instruction.

Introduction

While many students learn through conventional teaching methods, some do not. For those who have experienced difficulty in learning through traditional approaches little has been available. Often schools experienced difficulty in meeting student needs. As a result, many people with great potential never experienced academic competence because they did not learn in the ways in which they were taught. The main purpose of school should be to develop each student's abilities. Students who are helped in this way feel more competent and self-esteem is enhanced.

While it has been long recognized that spelling and vocabulary are two cornerstones of the English language, educators have done little to alter methods of spelling instruction to meet the needs of at risk students. For generations students have been presented with weekly spelling lists, to be learned without fail, utilizing rote memory. Throughout each week, drills of varying nature, all of which depended primarily on looking at a word, writing it and defining it, were assigned and torturously completed. Students then faced the end of the week with its traditional Friday spelling test. Results of this test determined whether or not the entire week's work had been worth the effort and the spelling words truly learned. While this has been a

satisfactory method for a majority of the students, there has always been a small number of students for whom spelling remained a horrible experience.

Today schools today are filled with students of widely varying abilities. The high number of students who are not succeeding when taught in traditional styles forces educators to consider multiple ways of delivering instruction. Alternative methods of presentation must be found to help reach these students, which will enable them to master important language tasks. The traditional ways of teaching spelling and vocabulary have been more than sufficient for the majority of the students. Presentation of a weekly word list was followed by having the students look up and copy the definitions from the dictionary. The students were then required to use the vocabulary words in sentences. This method has had the desired result of ensuring comprehension and understanding of the words for the majority of the students. For many underachieving students, however, traditional methods of education in language arts have been problematic. For these students, usually not as adept in acquiring information through mere words, either spoken or on a page, the traditional methods have not worked.

Not only do teachers need to find other methods of transferring knowledge, educators also need to establish other methods of testing for such acquisition. As long as educators continue to reward only those students who possess high levels of verbal skills, we overlook students who are skilled in other areas. Some alternative methods must be discovered, tried, and then incorporated into the educational process in order to ensure an equal chance for success for all. This study explores an alternative method of instruction for those students who have experienced the great difficulty in achieving high scores on weekly spelling and vocabulary tests.

Statement of the Problem

This study examined the effect of utilizing teaching methods geared specifically to reach at risk students in order to improve spelling and vocabulary test scores. The reason for selecting this problem arises from watching at risk students exhibit great fear and failure when confronted with traditional methods of learning spelling and vocabulary.

At risk is the term used to identify students with a grade point average of 2.0 or lower. These students were expending great effort to understand spelling and vocabulary in the way the class was being

taught. They appeared frustrated and in need of alternate ways to master spelling and vocabulary.

The purpose of this study is to examine the effect on spelling and vocabulary test scores by changing the method of instruction to include elements of music and rhythm. Using music during instruction may change students' perception of what they are learning and their perception of their environment. This, in turn, may have an effect on retention of instruction. Presently students approach learning spelling and vocabulary by looking at the word, and then writing it down in a stimulus-response fashion. This study explores the effects of including music as part of the information processing between stimulus and response in spelling and vocabulary instruction.

Research Hypothesis

If it is true that music and rhythm have an effect on student learning, then students who receive instruction through this approach will achieve higher test scores than previously attained without the benefit of a musical component.

Rationale

The rationale for changing the manner of presentation of spelling and vocabulary instruction comes from Gardner's theory of multiple intelligences (1983). In studying intelligence, Gardner was struck by the way different cultures assess competence. The history of western civilization records the glorification of knowledge, from the classical times when reason was highly valued through the Medieval times when logic, grammar, mathematics, geometry, astronomy and Latin were the cornerstones of knowledge. Other cultures have emphasized those talents which made survival possible, such as the ability to track animals. Native American cultures valued the ability to read the weather patterns and understand herbal medicine. Gardner argues that each person has many intellectual competencies, and various abilities are developed to the degree demanded by the culture in which the person lives.

Gardner has taken his beliefs a step further and identified specific competencies, which have evolved into what he has termed the Multiple Intelligence Theory. He suggests that, not only do we learn using these seven ways, but each of the ways of learning can be taught and enhanced to increase the overall ability of the individual.

He has elected to label these competencies the seven intelligences, and named them:

1) Verbal/Linguistic; 2) Logical/Mathematical; 3) Visual/Spatial; 4) Body/Kinesthetic; 5) Musical/Rhythmic; 6) Interpersonal; and 7) Intrapersonal.

For many students the Verbal/Linguistic and the Logical/Mathematical intelligences are predominant; therefore, traditional methods of instruction are appropriate. The current emphasis on an intelligence quotient (IQ) and the methods by which most testing is done today, rewards those students in whom these two intelligences are predominant. We recognize the truth of Gardner's statement (1993):

> In our society, however, we have put linguistic and logical-mathematical intelligences, figuratively speaking, on a pedestal. Much of our testing is based on this high valuation of verbal and mathematical skills. If you do well in language and logic, you should do well in IQ tests and SATs, and you may well get into a prestigious college....(p. 9)

However, with the introduction of the concept of the Multiple Intelligence Theory, the question has been raised about the desirability and possibility of awakening and teaching to all intelligences in order to meet the needs of all students. It is this concept which would enable each student to learn in his or her own preferred way.

While seven intelligences have been identified, only one has been selected as a basis for this study. This decision was based partly on the questions raised by Gardner's (1993) statement:

> Of all the gifts with which individuals may be endowed, none emerges earlier than musical talent. Though speculation on this matter has been rife, it remains uncertain just why musical talent emerges so early, and what the nature of this gift might be. (p. 99).

The other reason for this selection is this author's love of music

Background and Need

We are living in a new era where school reform, right-left brain research, relevance of curricula, not to mention, declines in test scores, make the headlines almost daily. It is not unusual for a school superintendent to express to his staff as reported by Doyle (1993), "Your goal is to significantly improve the district's test scores, especially those on our state-mandated basic skills test."(p. 42)

Test scores seem to govern our educational programs of today. Headlines are generated by the release of statewide standardized test scores which appear to pit district against district, even school against school. Little coverage is given to explain what the tests measure, who was tested, what use will be made of the scores. The public, ever eager for comparisons, grasps the test scores in an effort to prove the value of

their school, or to condemn the performance of their school. As a result, test scores are the measure by which schools are judged and therefore, any and all steps must be taken to raise the scores on the tests.

The local plan for change in the schools addressed the need to examine the different methods of instructional delivery. Lecture and textbook methods of instruction are not for all students. Interactive methods already in place, which incorporate sound and rhythm, as well as other tools, need further examination to determine their impact on learning. This recognition of the need to change the method of delivery of instruction is heralding new horizons.

Caine and Caine (1991) knew that methods of delivery needed to be expanded. No longer is it sufficient to teach specific skills and memorization of facts which ignores the capacity of the brain and its predisposition to search for how things make sense. The authors set forth as a general principle that students learn from their experience and that content cannot be separated from context.

Lazear (1991) suggested that the effect of music and rhythm on the brain creates the greatest consciousness alteration of all of the intelligences. Thus, by using the musical/rhythmic intelligence in methods of instruction to alter the way students think and study

spelling and vocabulary, students may improve on a teacher-designed spelling/vocabulary test.

Leonard (1987) suggested that dance, drama, and music be introduced into lesson presentations in order to link the body and the senses. In this manner meaning could be given to what would otherwise be unconnected data. The story is told by Caine (1991) of the second grade teacher working with a group of students identified as slow learners. She was having difficulty trying to explain what commas, periods, and exclamation marks represented in their reading material. After several attempts to explain that commas meant to slow down, periods meant to stop, and exclamation points meant emphasis, she, in exasperation, told them to put on their coats and follow her outside. There she told them that while they walked in a circle, she would read to them. When she said, "Comma," they were to slow down. When she said, "Period," they were to stop. When she said, "exclamation point," they were to stop and jump up and down. She read to them for five minutes, after which they returned to the classroom. When they began reading aloud after this exercise, they slowed down at commas, stopped at periods, and emphasized the material preceding exclamation points.

Examples of this nature, indicate that good teaching has always incorporated more than rote memory. It is only now that we are beginning to bring together all of the information so that we can look at the whole brain and how we learn.

School reform, as it is being developed throughout the nation, is taking a long hard look at what we have know for a long time , that our methods of education govern the way we teach and the students' freedom to learn. As a result we have a majority of teachers using simplistic tests and teaching to the tests. They tend to teach for memorization and in this fashion, limit what students can learn and can experience.

As Hunter (1990) stressed in her writing for the ASDC Handbook, one of her wishes would that "....we would stop seeking one simple solution for working with the most complex structure in the known universe, the brain."(p. xiii) Bruce Joyce, in his Prologue to the same volume, decried the fact that teachers' knowledge of instructional procedures was derived from their admittedly weak preservice education.

When Doyle (1993) studied academic work in American schools, he validated that which was already known, namely that accountability and testing drive schooling. Early in the educational process students

learn that all classroom activities are not equal, some will be tested and some will not. Since most of the testing being done dealt only with the verbal/linguistic or mathematical/logic intelligences, experiences which focused on the other five of the intelligences identified by Gardner appeared to be unimportant. The result of this, was that students, not as proficient using the two intelligences being tested, were often identified as poorer students.

Guild and Garger (1985) wrote that we make rules for schools assuming that everyone values and interprets them in the same way and yet we also acknowledge that diversity exists and that we ignore this fact. This dichotomy has kept us teaching in the same ways while we eagerly search out new knowledge about the brain and how it works and, more importantly, how we can make it work more efficiently and more completely. After all, we have been led to believe that school success was measured by good grades, and we ignored the fact that good grades could be earned only by high performance of the verbal/linguistic and mathematical/logic intelligences.

A discussion of learning modalities begins to approach the idea of the seven intelligences. Recognizing that some students are visual learners, others are auditory learners, and still others are kinesthetic learners has lead in the recent past to a movement to present materials

in manners representing all three modalities. Teachers have begun to examine their methods of presentation, recognizing that

> (w)e teach as we learn best, not as we were taught. (Teachers) tend to project their own modality strengths into their selection of materials, teaching strategies and procedures, and methods of reinforcement (Barbe & Swassing, 1979, p. 14)

We have come a long way in studying how people learn but we have a long way to go before we are able to apply all of our new knowledge. It is risky to step out, moving away from the bubble tests of regurgitated material and to begin to look at the whole person, but until we are willing to address the individuality of each of us and our students, we will not be teaching the entire child. Gardner's work in identifying and quantifying the seven intelligences has given us a way to step out and try new teaching techniques which may enable us to reach that at risk student occupying a desk directly in front of us.

We need to continue to research how we learn and the ways in which we can teach to enable this learning to take place. This is the basis for the need I feel in attempting to work with the musical/rhythmic intelligences of my at risk students.

Review of the Literature

The review of the literature has led to many sources, most of which deal with the Multiple Intelligence Theory in its entirety. Little

dealt with the concept of changing the method of delivery of instruction in the area of spelling utilizing the Musical/Rhythmic strand of Multiple Intelligence Theory. However, some references were present which lead me to believe that a study in this area might add some valuable knowledge to educational field.

Music and Learning

The literature presented the idea that the intelligences are not entirely separate. We all possess all intelligences but not all intelligences have been awakened, a term coined by Gardner, to the same degree, or level. It is in this level of awakening that we become more predisposed to one intelligence over another. Music has been used throughout the ages as a means of centering and calming an individual. References are made in the Bible to the calming effect of David's musical harp on the worried and frantic King Saul. In Proverbs we read that "music hath charms which soothe the savage beast".

Carol Hillman (1988), writing of her experiences in teaching pre-school children, reported that she found the autoharp to be the most useful instrument in getting the attention of her students. The students soon learned that the sound of the autoharp meant that

something special was about to happen. She began each lesson by sounding the music and then singing each child's name. In her mind the most important thing about music is that it should be ever present in her classroom.

Superlearning, the highly touted method of instruction from Russia, based its method of instruction on the use of Baroque music which synchronizes with the student's heartbeat and increases comprehension and retention. Classes are still being offered throughout the country which utilize the techniques brought to us through the studies of Ostrander (1979). Superlearning techniques required the presentation of spelling words in a synchronized manner over the soft renditions of the baroque music.

Harvard's Project Zero, founded by Nelson Goodman, began to look seriously at the human development of artistic and creative abilities. This was undertaken in order to present a contrasting point of view to the developmental psychology of that time, presented by Piaget, which centered on logical and linguistic abilities. Project Zero was successful in documenting the nonlinear U-shaped developmental pattern in children's artistic development which included the development of various representation systems (from music to block building). David Fernie (1992) saw this work as vitally important in

altering the way in which we assess students. He saw that students are tested on what they have been directly taught, rather than on their ability to stretch their mental muscles in new and appropriate ways.

Multiple Intelligence Theory

Rexford Brown (1992), in reviewing Gardner's book, The Unschooled Mind, spoke of the need to rethink our ways of teaching and our system of delivery of this instruction. He pointed out that many have argued that the mere demographic changes within our country must force us to rethink what we are doing. Current research about effective schools gives good reason for change. Others remind us of the goal we have set forth in a promise to all children, that we will provide equal opportunities to all to develop their intellectual powers to the fullest. To these reasons for change, Brown added Gardner's position that we know about learning now does not support current practice. Brown agreed with Gardner in stating that educators must acknowledge the many forms of intelligence which students bring to school. In addition, educators must address all of the intellectual strengths and intelligences far more directly than they have ever done before.

Marge Scherer (1985) stated that the definition of intelligence should be "the ability to solve problems or to create products which are valued in one or more cultural settings." (p. 32) Therefore, with the abilities to solve or create being valued differently in different cultural settings, one must find out what exactly it is in one's own society that one holds the most value.

In her studies she noted one fact to which she attributed great importance. She discovered that a person can suffer severe brain damage, to the point of becoming totally aphasic as a result of damage to the left hemisphere, hardly able to speak or understand, but yet perfectly capable of drawing very well and singing very well. Here again, the music intelligence separates itself out from the others.

Scherer continued by discussing Piaget who believed that the mind was capable of different kinds of operations: sensory-motor, concrete, and formal. Piaget felt that these operations could be applied to any material with equal ease. Therefore, if a person had reached the concrete level of reasoning, he would apply concrete operations no matter what the subject matter was. This is opposite to the theory of multiple intelligences which posits that the intelligences are tied to content and that the brain is wired in such a way that when it runs into

certain kinds of sounds, it will analyze them either linguistically or musically.

Development of the musical intelligence often depends on the attitude of the family from which the student comes. If the family recognizes musical intelligence it is more often nurtured. By the time a student reaches school, if the intelligence has not been recognized, the teachers may not realize that it exists and can be trained and developed.

Multiple Intelligence Theory

As an introduction to the idea of the Multiple Intelligence Theory, Gardner (1983) himself stated, "Of all the gifts with which individuals may be endowed, none emerges earlier than musical talent. Though speculation on this matter has been rife, it remains uncertain just why musical talent emerges so early, and what the nature of this gift might be." (p. 99)

Allan Glatthorn, reviewing The Unschooled Mind: How Children Think and How Schools Should Teach, (1992) reiterated Gardner's three stages of learning as 1) age birth to seven - intuitive learner; 2) age 7 to 20 - traditional learner; and 3) disciplinary expert which is defined as the skilled person of any age who has mastered the

skills of a discipline and can apply the concepts and knowledge to new situations. Integration of all intelligences should occur at all three levels.

Glatthorn felt that Gardner made only a weak case for curriculum integration and the examples cited seemed discipline focused, and firmly embedded in a sound knowledge base of a particular subject. The emphasis on the development of the seven intelligences appears to have been lost in this more traditional approach to a reform of curricula for the various disciplines.

Kieran Egan (1992) wrote about the difficulty in picturing Gardner's ideas being effective in any locale but that composed of bright middle-class students. The idea of applying his theories to inner city schools where the emphasis is on survival seemed almost impossible. The early development of the various intelligences is predicated upon the idea that a child comes from a somewhat intact home where exposure to usual experiences has been the rule of the day.

Egan took exception to Gardner and his theories which seem to be based on the idea that education has been the prime goal of all cultures. Egan does not feel this to be true, but feels rather that socialization has been the prime goal. He states that one cannot

imagine a culture devoid of socialization but one can imagine a culture devoid of education.

The theory of multiple intelligences, although not always identified in those terms is not new. Csikszentmihalyi, Rathunde, and Whalen (1993) writing of children expressed their belief that all children are talented in one way or another, even though their gifts may not be ones formally recognized by schools, teachers, or a branch of the curricula. Conclusions drawn from their studies about talented teenagers can be translated into meaning for the study of the seven intelligences. They recognized that dimensions of giftedness include, for example, body movement, empathy, and visual acuity. They further addressed the idea that talents are valued by their use in the particular culture and that the identification of talents, then, is predicated upon the culture.

Continuing with this line of reasoning, the researchers concluded that because of the manner in which we currently test, several of the intelligences are thought to have little value and that the development of these particular talents then are no guarantee of future success. However, if there is sufficient family support, the student will be able to work on the development of the intelligence, even when it is unusual.

Csikszentmihalyi et al., also wrote of the need for both expressive and instrumental rewards for the awakening of the newly developing intelligences. The pointed out that awakening of the musical intelligence resulted in "I enjoy" comments, while awakened verbal/linguistic and math/logic resulted in comments of "It is useful."

Bradley and Bryant (1985) studied over 400 children ages 4 and 5 over a four year period. The aim of the project was to test casual hypothesis about children's successes and failures in learning to read and write. They believed that early childhood experiences with rhyme and alliteration closely connected to rhythm and music would have an affect on student progress in learning to read and spell during the first years of school.

They learned that initial rhyming and alliteration scores did bear a significant and consistent relationship to progress in reading and spelling even after the influence of intelligence and differing verbal levels had been removed. Teaching children to categorize words by their sounds and alliteration improved both reading and spelling.

Perhaps the best source of information on Multiple Intelligence Theory and its applications to teaching and knowing comes from Lazear (1991) who states: "This intelligence (Musical/Rhythmic)

includes such capacities as the recognition and use of rhythmic and tonal patterns, and sensitivity to sounds from the environment, the human voice and musical instruments." (p. xiii) Thus traditional ways of teaching spelling and vocabulary, utilizing spelling out loud, spelling bees, singing rhymes, etc. have been awakening this intelligence but perhaps not to the degree necessary. This, more than any other source, suggests that by pushing a little more to awaken this intelligence in these at risk students, a breakthrough could be achieved which would give them a new found self-esteem. Lazear also states later in the chapter, "Of all forms of intelligence identified thus far, the 'consciousness altering' effect of music and rhythm on the brain is the greatest." (p. xiii). Once students access the musical/rhythmic intelligence, they can experience a great capacity for change in mood or receptivity to instruction. If an orator could purposefully dial in whatever mood he or she required to persuade an audience to follow his or her lead, it is easy to see that these implications are great. In the same manner, if an instructor could purposefully dial in whatever mood he or she had predetermined was necessary to teach a group of at risk students how to access their own musical/rhythmic intelligence, he or she would be increasing their ability to learn.

Both the left and right hemispheres of the brain are involved in musical/rhythmic intelligence. The left hemisphere is involved in the formal, systematic approach to music and rhythm, for example when we are learning to read notes, beat out a prescribed rhythm, and recognize different tones and/or instruments. The right hemisphere is the place of sheer enjoyment of music for its own sake, whether or not we know anything about it as a formal system (Gardner, 1983). It is then both hemispheres that we are trying to reach with this type of teaching.

Lazear proposed five experimental approaches in order to make possible an assessment of a students intellectual profile (p. 110-111). Gardner believes that it takes about ten hours of careful observations in order to begin to see a profile of students' intelligence strengths and weaknesses. This is the beginning of the process of change. As the students learn about their multiple intelligences and how to use them in their lessons and their daily lives, the profile will change. As this process takes place, we, as educators, must be willing to continue our search for "strategies for coaxing students to 'step beyond their limits' and become all that they can be!" (Lazear, 1991, p. 111).

The teachers at The New City School in St. Louis, Missouri, began working with multiple intelligences in the spring of 1989.

Beginning slowly with a Talent Committee, the school investigated the intelligences, trained its staff, and then implemented the multiple intelligences model in 1990-91. Thomas Hoerr, Director, expressed his satisfaction in this program and his belief that it has provided educational advantages to the students by providing a means to develop a process of reflection and discussion.

Daniel Fasko (1992) reported that preliminary studies conducted at three schools utilizing the multiple intelligence program reveal that students are more motivated and that at risk students can excel. These results are what speak to educators seeking growth from at risk students.

While positive results have been reported and experimental programs are under way, it should be noted that the concept of multiple intelligences as single factor constructs of intelligence have been refuted by current research, according to Morgan (1992) who feels that this is simply the renaming of already identified abilities.

Continuing research will serve to validate, or negate, the importance of the concept of multiple intelligences. The use of the multiple intelligence theory in the teaching of specific subject areas has not been definitively tested with conclusive results. However, studies such as the one presented here will further knowledge in this area.

Method

Subjects

The subjects are seventh grade students in a Seventh Grade Humanities Core classes at a middle school in Marin County. The class consists of 29 students, of which 6 have been labeled as "At Risk." This middle school in Marin County identifies students who have a grade point average of 2.0 or below as "at risk."

Materials

I followed the standard curriculum material as the source for the spelling and vocabulary words.

List One	List Two
akimbo	apparition
bellow	bonnet
canvas	chivalrous
defy	derive
encounter	exquisite
file	flit
girdle	gout
incomprehensible	insolent
mastiff	metamorphosis
persistent	pilgrimage

These words were selected from the state adopted literature text for seventh grade. (Prentice Hall Literature, 1989).

Procedure

Lesson Plans

Tuesday, March 15, 1994, Second Period.

Self-selected reading (SSR) - 15 minutes

Books are selected by students from library or home collections.

Collect and log Homework from weekend.

Daily Journal writing - Topic of the Day - Of all the people I know, this is the person to whom I would most like to write.

During Journal Writing, copy List One's spelling/vocabulary words on the board.

Students will copy words. With a partner, students will write definitions for all ten words.

Announce spelling/vocabulary quiz for Friday 3/19.

Introduce Social Studies lesson for the day.

Wednesday, March 16, 1994, Second Period.

SSR - 15 minutes

Journal write - 5 minutes. Topic: What is the most exciting aspect of the book you are reading?

Separate class into dyads. Give each pair two words from spelling/vocabulary list to WDSP. WDSP requires that each pair

use construction paper and crayons to draw the Word, write the Definition, use the word in an Sentence and finally draw a Picture of the action of the sentence, illustrating how the word was used in the sentence. Once the pictures are completed, they are collected to be shared the next day.

Students finishing early are to begin their Social Studies assignment.

Thursday, March 17, 1994, Second Period, St. Patricks Day.

SSR - 15 minutes

Journal write: When I hear the word leprechaun, I think of...

WDSP presentations by dyads.

At the beginning of the year most students were rather nervous with this approach, but by now I have a few performers on my hands, which makes their performances fun. In addition, I see significant development in many students artistic skills, as this exercise, especially working with a partner, seems to help students who are more artistically inclined to express what they are understanding. At the end of each performance, students are encouraged to ask questions. The questions clarified understanding for the whole class.

Friday, March 18, 1994, Second Period.

SSR - 15 minutes

Journal write - 5 minutes

Spelling test - Dictate words

Vocabulary test - multiple choice

Social Studies lesson to complete.

Tuesday, March 22, 1994, Second Period.

SSR - 15 minutes

Journal write - 5 minutes Topic: As we approach the end of the third semester, there are three things I can do to improve my performance in school.

Introduce Multiple Intelligence Theory.

Write the seven intelligences on the board. Students take notes as I instruct explain the concept of the seven intelligences. Once this was done, I entertained questions from the class, as they were naturally curious about this concept which was new to all of them.

Brainstorm movies they have enjoyed.

I explained how I had greatly enjoyed the motion picture The Empire Strikes Back. I asked the class to think back about movies that had greatly moved them. We brainstormed about 15 titles on the board, and as I placed each title on the board, I asked, "What about the movie made it so memorable?" I received many responses, but not one student mentioned anything about sound; all their responses pertained to the visual realm. I next explained what it was that moved me so about The Empire Strikes Back, precisely the sound. In the theatre, it seemed that the spaceships were coming from behind my head, things flew into the picture from out of nowhere, and I really felt as if I were there as the action unfolded. The sound had influenced me that greatly. In addition, different musical selections can also influence us, I noted. I asked the class to identify an activity that went along with each of these musical selections. I sang, "Oh, say can you see..." and got the immediate response of "Baseball!" I sang, "Amazing grace, how sweet the sound..." and got a less enthusiastic response of "church." I hummed the Wedding March and received the response of "A wedding." Finally, I imitated the trumpet call from a horse race

and received many different responses until I told them what it was.

With this in mind I asked them to track their responses to some musical selections that I would play for them. I asked them to note if the music sounded happy or sad, and to "feel" what the music was "saying to you personally." I played five selections and asked the students to track their responses. The selections were: The Dregs-"Cruise Control", Gustav Holst-"Mars, the Bringer of War", Devo-"Whip It" (EZ Listening Version), Miles Davis-"So What" and Nigel Kennedy's version of Jimi Hendrix's "Fire." I played one minute of each selection while the class wrote down responses. Once done, I replayed each selection giving the name of the artist and, more importantly, the title. While doing this, I entertained various voluntary responses from the class as to what they felt as they listened to each selection.

Wednesday, March 23, 1994, Second Period.

SSR - 15 minutes

Journal write- 5 minutes

Sensitivity to Sounds - dyad activity

I explained how from yesterday's lesson we also have an awareness to sounds that occur in our natural and humanly-made environments. I explained that often we can know what is going on in the multi-purpose room next door just by listening. In addition we can know what time of day it is on campus just by listening. Sometime we can even tell the weather in the same way. I asked the class to think about how much they can tell what is going on just by hearing the noises that accompany an activity.

Partner one numbered from one to five on a piece of paper and then closed their eyes and listened to an activity being performed. Partner two performed five different tasks (looked up something in a book, moved a desk away, scratched his/her arm, counted coins in pocket and did a pushup). After each activity, partner one was given 30 seconds to write down, in as much detail as possible, what their partner was doing. Once this was completed, we had volunteers share out their responses to the class. Next, the roles were reversed with the same partners, and five new activities were performed (writing on board, erasing a mark on a sheet of paper, sharpening a pencil, tearing a

piece of paper and using a calculator). Once again, we shared out responses and changes in our perceptions in thinking about hearing things.

Thursday, March 24, 1994, Second Period.

SSR - 15 minutes

Journal write - 5 minutes

Speaking in Musical Tongues.

In this exercise I used pidgin German mixed with pidgin Spanish and Pig Latin to instruct the class on how to do a picture from story we had read in Social Studies. The concept of the story needed to be explained by them as a Who-What-Where, Beginning-Middle-End picture, a concept in which the class had been previously instructed. I asked the class, "Have any of you ever been someplace where you couldn't speak or understand the language around you? What was this like?" After getting several responses, mostly from students born outside of the United States, I related my story of being in France, in 1979, as a Boy Scout. As I attempted to board a bus, I asked in English about the bus fare. The driver looked at me and in French replied what I do not know. I felt like an idiot. At this point in

class I started using my made up language. I picked up our Social Studies book and said "bitte grusen Sie platta 213". They looked at me strangely but I continued to speak anyway. As I continued I drew the diagram for our Who-What-Where, Beginning-Middle-End on the board. I tried to get them to ask questions but all I received back were giggles. Once some student caught on to what I wanted them to do, they started talking among themselves, thinking I was nuts, but more importantly, thinking that they knew what I wanted them to do. As I finally began to speak in English, I asked them to get with their previous partner, some had to change due to absences, but to try to continue the discussion. I asked them to see how they could communicate through the quality of their voices, the tones, the rhythm of what they were saying and the pitch of their voices. Only one rule would be in place: No English or any other language that already exists. Their topic was to be favorite foods. This was allowed to continue for 5 minutes in order for the class to get over any initial discomfort with trying to do this. The response was as expected, embarrassment, giggles, and then some motivated students actually began performing for the class. Once this breakthrough happened, most of the rest began to try

it. I'd say it was moderately successful, once we reported out about our feelings before during and after the exercise. I asked them to check with each other to see if each knew what the other was talking about. "How did you know?" "If you didn't know what could you have done differently?" Responses were varied.

Friday, March 25, 1994, Second Period.

SSR - 15 minutes

Journal write.

Superlearning Experiment. I asked the class to listen to me read some factual information while I played in the background music I had selected. I asked them to concentrate on the music rather than on what I was saying. After I finished my reading, and the selection was over I asked them by raising their hands to answer questions I asked from my reading. It was shown that listening to certain forms of music can actually help students to remember and retain information.

Tuesday, March 29, 1994, Second Period.

SSR - 15 minutes

Journal write.

List Spelling/Vocabulary List Two on board.

I instructed the class to write down the words, explaining that there would be Spelling and a Vocabulary Test on Friday. While students were writing words from board and looking up definitions I played a selection from Gustav Holst's The Planets- "Saturn, the Bringer of Old Age."

Wednesday, March 30, 1994, Second Period.

SSR - 15 minutes

Journal write.

Listening: I asked class to concentrate on an activity that was taking place in the multipurpose room and to try and describe exactly what it was. After this I asked the class to pair up with their previous partners and make up a story about what could be happening out in the room from the sounds we were hearing. Before volunteer groups shared their ideas, I asked them to use at least one of the weeks Spelling and Vocabulary words in their description.

Thursday, March 31, 1994, Second Period

SSR - 15 minutes

Journal write

Mnemonic Recall-dyads

I reminded the students of previous mnemonic work we had done. I asked them to pair up and make up a mnemonic device for each vocabulary word. They could use the definition or the spelling to make up the device. These were shared with the class so we heard each word at least once mnemonically presented by students. After this was completed, I asked them to listen to a musical selection by Devo while I read, spelled and gave the definition for each word. I repeated the fact that there was a Spelling Vocabulary quiz on Friday after the selection was through.

Friday, April 1, 1994, Second Period

SSR - 15 minutes

Journal write

Tested spelling by dictation and vocabulary by multiple choice.

Results

Spelling and vocabulary test scores were as follows:

Mean Scores on Spelling and Vocabulary

Pre-treatment		Post-treatment	
Spelling	Vocabulary	Spelling	Vocabulary
10	8	5	4
9	8	6	3
8	10	3	3
6	10	6	8

Discussion

In examining the statistical results of this study I find that using the Musical/Rhythmic intelligence alone to teach spelling and vocabulary did not raise the at risk students' scores on either the spelling or the vocabulary test. The research hypothesis was not supported.

Before accepting the above findings as definitive, however, I would like to make the following observations, all of which call for further study in the area of the seven intelligences:

These four students had been long accustomed to the traditional method of spelling and vocabulary presentation, study, and testing. They felt comfortable in the procedures which had been in place since the start of this school year.

In attempting to insert teaching through the musical intelligence, only one week was devoted to teaching the new approach to material, prior to giving the students a list of spelling and vocabulary words. Students had insufficient time to internalize the presentation mode and the manner of studying called for in the musical intelligence.

From the beginning of this year, students had utilized auditory, visual, and kinesthetic modalities. WDSP, the regular procedure in place in the classroom, required that the students write the word, say the word, and draw the word. In addition they were given word searches and word scrambles which they had grown to enjoy. During the musical intelligence week, neither of these techniques were a part of the procedure. In attempting to limit the students to the use of the one intelligence, I removed tools with which they had become accustomed and had familiarity.

In selecting the one intelligence with which I felt most comfortable, I did not take into account which of the intelligences were in use in the students whom I was testing. If they had had little, or no experience, with the musical intelligence, then the one week of training in it was insufficient to bring it into practical use.

On several occasions, both Gardner and Lazear address the fact that no one intelligence acts alone, but that all are in operation to varying degrees at all times. I did not take this into account as I attempted to isolate one intelligence and teach only through that one.

The results have been based on four tests of 10 items each. A longer study, over an entire year, covering extensive training in the use of all of the intelligences, with the presentation of the material addressing all of the intelligences, would, I believe, provide a much different result.

The size of the sample was insufficient to make any definitive statement. The study began with six students. Through the course of the study, two were lost. A larger group of subjects would provide a more substantive result.

Accepting the definition of the school for at risk students (earning below the grade of C) did not take into account any other factors which may have contributed to the grade achievement of the student, i.e. family situation, possible identification as learning handicapped, etc. This designation was not restricted to students who were having difficulty in Language Arts classes, but could have been assigned to students who were achieving in Language Arts, but whose

grade point average was decreased by difficulties in the other subjects being studied.

While this particular study is disappointing in that the results were not those anticipated, the information is still useful. In order to change students' methods of attacking the task of learning, much must be done in the layering of ground work. The study of the Seven Intelligences and their use in the presentation of material from all disciplines and across the entire curriculum will, I believe, enhance the teaching of students and increase their ability to learn. Students learn in multiple ways through multiple modes. Educators must present material in ways which address the diversity of learning styles and the strengths of all of the multiple intelligences found in the classroom.

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Appendix

Date: _____ Name: _____

List One

U W H G S I X G H B L S O N M V N T Y T
W H R D J J A M T P A P R B R O S I L X
B Y K E S M A U N N S Y Y E M U W K J H
R T E Z T S M I U U E N A L N I W Y E N
P V T I T N S G P W H T W U Y F K L U X
P M H I K P U D J I A Y S R Z Z B A N P
X Z F V U J K O A I B A Z I H I B K H A
F F D W S U X P C G Z E K Q S P J R Y I
Y K Q A E E F P W N M X L N X R C F M O
U T P L T L W R F F E Z E L B J E X C T
I M P Q I A D G Z U O H B A O D C P B Z
H R N T Q S J R X W E W Q U L W I O H X
T Q O ! J K X K I R J V V C N M G W K L
U A J M C L F F P G Q A E X U F N S G Z
U T S A A X T M X D F A I U C J A U W I
K E B R W A O J L T H C B H K V O V P B
G F Z P O C Y B U Q X E L S N O K K U N
E I G Y N Q D G F D I V L A S B M I Q T
A L S I Z K L I R L C R C H S L G O R O
U E Q L S D Z C G E N L I X P Z D S Z T

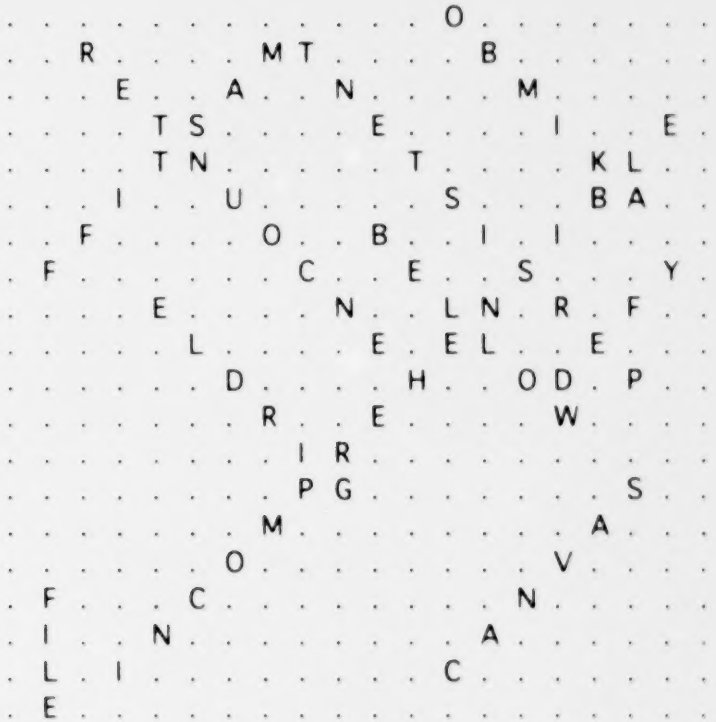
WORD LIST

AKIMBO
BELLOW
CANVAS
DEFY
ENCOUNTER
FILE
GIRDLE
INCOMPREHENSIBLE
MASTIFF
PERSISTENT

_____ _____ _____ _____ _____
_____ _____ _____ _____ _____

Date: ____ Name: _____

List One



WORD LIST

AKIMBO
BELLOW
CANVAS
DEFY
ENCOUNTER
FILE
GIRDLE
INCOMPREHENSIBLE
MASTIFF
PERSISTENT

Date: _____ Name: _____

List One Wordscramble

Scrambled List	Unscrambled List	Alphabetized List
1. AACVNS	_____	_____
2. YDEF	_____	_____
3. BKIMAO	_____	_____
4. ONTUNEECR	_____	_____
5. FSFITAM	_____	_____
6. OIRNEBCSIHEMPELN	_____	_____
7. TNPTIEERSS	_____	_____
8. EGDLIR	_____	_____
9. FLIE	_____	_____
10. ELBLOW	_____	_____

WORD LIST

PERSISTENT	DEFY	MASTIFF	CANVAS
INCOMPREHENSIBLE	BELLOW	GIRDLE	AKIMBO
FILE	ENCOUNTER		

Date: ____ Name: _____

List One Wordscramble

Scrambled List	Unscrambled List	Alphabetized List
1. AACVNS	CANVAS	AKIMBO
2. YDEF	DEFY	BELLOW
3. BKIMAO	AKIMBO	CANVAS
4. ONTUNEECR	ENCOUNTER	DEFY
5. FSFITAM	MASTIFF	ENCOUNTER
6. OIRNEBCSIHEMPELN	INCOMPREHENSIBLE	FILE
7. TNPTIEERSS	PERSISTENT	GIRDLE
8. EGDLIR	GIRDLE	INCOMPREHENSIBLE
9. FLIE	FILE	MASTIFF
10. ELBLOW	BELLOW	PERSISTENT

Date: _____ Name: _____

List One Vocabulary Mutiple Choice

1 ___ defy

2 ___ persistent

3 ___ file

4 ___ encounter

5 ___ girdle

6 ___ akimbo

7 ___ incomprehensible

8 ___ bellow

9 ___ canvas

10 ___ mastiff

Matching

A Constantly recurring.
B Meeting.
C To roar with a powerful, reverberating sound.
D To move in line.
E To boldly oppose or resist.
F Closely woven cloth used for tents and sails.
G Hands on hips, with elbows pointing outward.
H A large, powerful, smooth-coated dog with hanging lip and drooping ears.
I A belt or sash for the waist.
J Not able to be understood.

Date: _____ Name: _____

List Two Vocabulary Multiple Choice

1 ___ bonnet

2 ___ exquisite

3 ___ gout

4 ___ insolent

5 ___ chivalrous

6 ___ pilgrimage

7 ___ metamorphosis

8 ___ apparition

9 ___ flit

10 ___ derive

Matching

A To fly lightly and rapidly
B To receive from someone or something
C A long journey to a place of interest
D Courteous
E Disrespectful
F An automobile hood
G A change of form
H Ghost
I A disease characterized by swelling and pain in the hands and feet
J Very beautiful, especially in a delicate way